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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,145	02/23/2000	Zhimin Zhou	06816/089003/CIT2510-C	3425

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FISH & RICHARDSON, PC
4350 LA JOLLA VILLAGE DRIVE
SUITE 500
SAN DIEGO, CA 92122

EXAMINER

LUU, THANH X

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 08/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/512,145

Applicant(s)

ZHOU ET AL.

Examiner

Thanh X Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2001 and 09 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-16 and 18-32 is/are pending in the application.
- 4a) Of the above claim(s) 21-32 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-11, 13, 14, 16 and 18-20 is/are allowed.
- 6) ☒ Claim(s) 12 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I, claims 2-16 and 18-20 in Paper No. 14 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilder et al. (U.S. Patent 5,262,871) in view of Carbone et al. (U.S. Patent 5,717,199).

Regarding claim 12, Wilder et al. disclose (see Figure 1) an adaptive programmable light imaging device comprising: an array of active pixel sensor pixels (10), each pixel producing a signal based only on the received radiation within the pixel; a plurality of programmable summation kernels (see column 5, lines 14-22, superpixels), each summation kernel programmable to selectively sum together a number of the pixels from the active pixel sensor; and a resolution control circuit (18), producing an output signal (resolution level control) which controls a size of the summation kernels between a minimum value kernel size and a maximum value kernel size; Wilder et al. further disclose (see column 4, lines 55-60) first reading the array then changing the size of the summation kernel. Thus, a first frame is read and stored. It is

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inherent that only subsequent frames are affected by the control of the apparatus since the first frame is needed to establish an initial illumination state in the apparatus of Wilder et al. Wilder et al. do not disclose detecting an illumination condition and controlling the size of the summation kernels based on the illumination condition.

Carbone et al. disclose (see column 1, lines 9-18) summing pixels at low light levels in order to increase the signal level, reduce noise and increase readout speed. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to control the summation kernel size based on an illumination condition in the apparatus of Wilder et al. as disclosed by Carbone et al. to improve detection.

Regarding claim 15, Wilder et al. disclose (see Figure 6) a selection transistor (T_x or T_y). Wilder et al. do not disclose a buffer. However, buffers in image read out circuits are notoriously well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a buffer transistor in the apparatus of Wilder et al. in view of Carbone et al. in order to provide more accurate and faster detection through buffers. Furthermore, the choice of calibration is a matter of design choice and is notoriously well known in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to calibrate the apparatus of Wilder et al. in view of Carbone et al. in order to provide consistent detection.

Allowable Subject Matter

4. Claims 2-11, 13, 14, 16 and 18-20 are allowed over the prior art of record.

1. The following is a statement of reasons for the indication of allowable subject matter: an adaptive programmable light imaging device, more specifically, having a counter for counting a number of pixels or statistically determining which are in a specified illumination state and setting the summation kernel size based on the count in combination with the rest of the claimed invention is not disclosed or made obvious by the prior art of record.

Response to Arguments

5. Applicant's arguments filed October 10, 2001 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., statistically determining) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
August 4, 2003



Thanh X. Luu
Patent Examiner